

Notice of Allowability

Application No.

10/724,808

Examiner

Thomas K. Pham

Applicant(s)

GROSS ET AL.

Art Unit

2121

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 8/21/2006.
2. ☒ The allowed claim(s) is/are 1,3-5,7-14 and 16-21.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Reasons for Allowance

1. Claims 1, 3-5, 7-14 and 16-21 are allowed.
2. The following is an examiner's statement of reasons for allowance:

While Schmidt et al. (U.S. Patent No. 6122,575) discloses a system for assisting a technician in troubleshooting an aircraft auxiliary power unit (APU). A portable computer is couplable to an electronic control unit (ECU) of the APU and programmed to download fault data captured in a memory of the ECU. The fault data corresponds to one or more instances of APU failure. The computer is further programmed to compare the fault data to predetermined fault patterns stored in a database together with a corresponding service recommendation. The computer may be also programmed to distinguish the multiple instances of the fault data by distinguish the data that are likely attributable to the cause and those that are likely to the effect of APU failure. Schmidt does not disclose maintaining an evaluation unit with input data that defines functional relationships of plant components, on-site relationships of plant components, hierarchical relationships between controllers and field devices, and relationships between enterprise resource planning and manufacturing system data to be monitored are defined in the evaluation unit and submitted to peripheral devices in the manufacturing system based on hierarchical plant model, plant topology, and automation topology to reduce the amount of the manufacturing system data to be analyzed by the evaluation unit; refining the plurality of error patterns in an automated learning module that receives indications of relevance in matching of the monitored data to the archived error patterns and receives indications of success of the error predictions and recommended actions, and automatically modifies the archived error patterns to

improve the relevance indications and the success indications; and other limitations related to these features in combination with the remaining elements and features of the claimed invention.

And Palusamy et al. (U.S. Patent No. 5,311,562) discloses an integrated information system for a plant with interactive processes running in functional equipment subsets. The system integrates operational parameter data collection, evaluation based on stored design criteria, and plant information reporting, in a comprehensive plant information system useful for planning operational and maintenance decisions. The system collects a wide array of information respecting the character and operational conditions of functionally interdependent elements of a nuclear power generation plant, including design criteria applicable to the elements, and to process this information using intelligent monitoring and diagnostic routines that model operation of the plant to anticipate problems and enable efficient planning of operations and maintenance. Palusamy et al does not disclose archiving a plurality of error patterns that previously occurred in the manufacturing system, the archive error patterns created by statistical methods; maintaining an evaluation unit with input data that defines functional relationships of plant components, on-site relationships of plant components, hierarchical relationships between controllers and field devices, and relationships between enterprise resource planning and manufacturing system data to be monitored are defined in the evaluation unit and submitted to peripheral devices in the manufacturing system based on hierarchical plant model, plant topology, and automation topology to reduce the amount of the manufacturing system data to be analyzed by the evaluation unit; and other limitations related to these features in combination with the remaining elements and features of the claimed invention.

The prior art of record fails to teach or fairly suggest to one of ordinary skill in the art at the time of the invention, in conjunction with all the other claimed limitations, a system for predictive recognition of errors in a manufacturing system having all the claimed features of applicant's instant invention, specifically including: maintaining an evaluation unit with input data that defines functional relationships of plant components, on-site relationships of plant components, hierarchical relationships between controllers and field devices, and relationships between enterprise resource planning and manufacturing system data to be monitored are defined in the evaluation unit and submitted to peripheral devices in the manufacturing system based on hierarchical plant model, plant topology, and automation topology to reduce the amount of the manufacturing system data to be analyzed by the evaluation unit; refining the plurality of error patterns in an automated learning module that receives indications of relevance in matching of the monitored data to the archived error patterns and receives indications of success of the error predictions and recommended actions, and automatically modifies the archived error patterns to improve the relevance indications and the success indications, etc., as set forth in the claims.

Also, there is no motivation to combine the Schmidt reference with the Palusamy reference to meet these limitations. It is for these reasons that applicant's invention defines over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

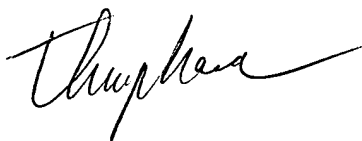
Art Unit: 2121

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thomas Pham*; whose telephone number is (571) 272-3689, Monday to Thursday from 6:30 AM - 5:00 PM EST or contact Supervisor *Mr. Anthony Knight* at (571) 272-3687.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thomas Pham

Patent Examiner

A handwritten signature in black ink, appearing to read 'Thupha', written in a cursive style.

August 26, 2006